

Applicant : Shoji Kobayashi et al.  
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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A vehicle headlamp apparatus comprising:  
map information acquiring means for acquiring positional information on a vehicle on a map and the environmental information;  
environmental condition detection means for detecting an environmental condition relating to a ~~traveling~~ road on which the vehicle is driven traveling according to image information or the information acquired from a radar; and  
light distribution control means for varying ~~the~~ light distribution of a headlamp attached to a vehicle in accordance with variation ~~with the~~ in a travel condition of the vehicle and the environmental condition,  
wherein said light distribution control means performs light distribution control ~~over for~~ the headlamp according to ~~one of information adopted with the priority given thereto out of the~~ information judged by the light distribution control means to be the more reliable as between ~~derived from~~ information from said map information acquiring means and the information detected by said environmental condition detection means ~~or according to information~~ complemented with both kinds of information above.

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2. (Previously presented) A vehicle headlamp apparatus as claimed in claim 1, wherein a lane with respect to a road on which the vehicle is being driven is detected and the detected result is judged good or bad;

light distribution control over the headlamp is performed by switching the information detected by said environmental condition detection means and the information derived from said map information acquiring means according to the result thus judged.

3. (Previously presented) A vehicle headlamp apparatus as claimed in claim 2, wherein when the result of lane detection is judged to be good, priority is given to the information detected by said environmental condition detection means.

4. (Previously presented) A vehicle headlamp apparatus as claimed in claim 1, wherein when the first information acquired by said map information acquiring means is different from the second information acquired by said environmental condition detection means, the first information is modified according to the second information and the light distribution control over the headlamp is performed by using the modified information.

5. (Currently amended) ~~A vehicle headlamp apparatus as claimed claim 1;~~ A vehicle headlamp apparatus comprising:

map information acquiring means for acquiring positional information on a vehicle on a map and environmental information;

environmental condition detection means for detecting an environmental condition relating to a road on which the vehicle is traveling according to image information or information acquired from radar; and

light distribution control means for varying light distribution of a headlamp attached to a vehicle in accordance with variation in a travel condition of the vehicle and the environmental condition.

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wherein said light distribution control means performs light distribution control for the headlamp according to information judged by the light distribution control means to be the more reliable as between information from said map information acquiring means and the information detected by said environmental condition detection means, and

wherein said environmental condition detection means comprises an imaging unit for forming an image ahead of the vehicle; when detection capability of said imaging unit is low, light distribution control means performs light distribution control over the headlamp according to the information derived from said map information acquiring means.

6. (Currently amended) ~~A vehicle headlamp apparatus as claimed claim 2,~~

A vehicle headlamp apparatus comprising:

map information acquiring means for acquiring positional information on a vehicle on a map and environmental information;

environmental condition detection means for detecting an environmental condition relating to a road on which the vehicle is traveling according to image information or information acquired from radar, wherein a lane with respect to a road on which the vehicle is being driven is detected and the detected result is judged good or bad, and wherein said environmental condition detection means comprises an imaging unit for forming an image ahead of the vehicle; and

light distribution control means for varying light distribution of a headlamp attached to a vehicle in accordance with variation in a travel condition of the vehicle and the environmental condition.

wherein said light distribution control means performs light distribution control for the headlamp according to information judged by the light distribution control means to be the more reliable as between information from said map information acquiring means and the information detected by said environmental condition detection means, and light distribution control over the headlamp is performed by switching the information detected by said environmental condition detection means and the information derived from said map information acquiring means

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according to whether the detected result is judged good or bad, and when lane-mark detection capability of said imaging unit is low, the light distribution control means performs light distribution control over the headlamp according to the information derived from said map information acquiring means.

7. (Currently amended) ~~A vehicle headlamp apparatus as claimed in claim 1,~~

A vehicle headlamp apparatus comprising:

map information acquiring means for acquiring positional information on a vehicle on a map and environmental information;

environmental condition detection means for detecting an environmental condition relating to a road on which the vehicle is traveling according to image information or information acquired from radar; and

light distribution control means for varying light distribution of a headlamp attached to a vehicle in accordance with variation in a travel condition of the vehicle and the environmental condition.

wherein said light distribution control means performs light distribution control for the headlamp according to information judged by the light distribution control means to be the more reliable as between information from said map information acquiring means and the information detected by said environmental condition detection means, and

wherein when worsening of weather is detected, said light distribution control means performs light distribution control ~~over~~ for the headlamp according to the information derived from said map information acquiring means.

8. (Original) A vehicle headlamp apparatus as claimed in claim 1, further comprising steering information acquiring means for acquiring steering information to supply said light distribution control means.

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9. (Original) A vehicle headlamp apparatus as claimed in claim 1, wherein said light distribution control means controls an optical axis of the head lamp in a vertical direction to vary the light distribution thereof.

10. (Original) A vehicle headlamp apparatus as claimed in claim 1, wherein said light distribution control means controls an infrared lamp that emits a near infrared ray.

11. (Original) A vehicle headlamp apparatus as claimed in claim 1, wherein said light distribution control means controls an optical axis of the head lamp in a lateral direction to vary the light distribution thereof.

12. (Previously presented) A vehicle headlamp apparatus as claimed in claim 1, wherein said light distribution control means controls an optical axis of the head lamp to direct downward so as to illuminate an area ahead of the vehicle.

13. (Previously presented) A vehicle headlamp apparatus as claimed in claim 1, wherein said light distribution control means controls to irradiate a lane mark near the vehicle.